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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/807,706	07/09/2001	Toshihiko Ohashi	MAT-8124US	2487

7590

09/22/2004

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EXAMINER

LEE, PING

ART UNIT	PAPER NUMBER
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2644

DATE MAILED: 09/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/807,706

Applicant(s)

OHASHI, TOSHIHIKO

Examiner

Ping Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 May 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,6,7 and 9-12 is/are rejected.
- 7) ☒ Claim(s) 3-5,8,13 and 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>5</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to because no brief description for each box in each figure. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 6-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 6, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention.

See MPEP § 2173.05(d).

Regarding claim 9, the limitation "one of relation among" is confusing.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kinoshita et al (US 5,384,853) in view of Fischer et al (US 5,748,748) and Kanamori et al (US 6,639,986).

Regarding claim 1, Kinoshita et al (hereafter Kinoshita) discloses an active noise control system comprising an ANC unit (1 as shown in Fig. 1) for processing signals to actively cancel noise (road noise), sensors for detecting information on the inside (col. 5, line 30) and outside (col. 5, lines 8-11) of the vehicle, and a reproducing transducer (LS0, LS1 as shown in Fig. 1).

Although Kinoshita fails to explicitly show an amplifier, the amplifier is inherently included to provide signal to the speakers.

Kinoshita also fails to show a source unit for generating regenerative signals and bone-conducting actuator. It was well known in the art that a passenger vehicle as shown in Kinoshita would include a radio or CD player. Fischer et al (hereafter Fischer) teaches audio system, including the speakers and the radio receiver, inside the vehicle in order to save the cost (col. 9, lines 12-19). Fischer also teaches a bone-conducting actuation (362 in Fig. 8) for providing attenuation for vibration. Thus, it would have been obvious to one of ordinary skill in the art to modify Kinoshita in view of Fischer by utilizing bone-conducting actuator in order to reduce the vibration caused by the road noise.

Kinoshita also fails to show a vehicle interior voice discriminating unit. Kinoshita teaches a background level detecting section (42) for detecting the level of the background sound inside the vehicle and determining whether to update the filter coefficients. Kanamori et al (hereafter Kanamori) teaches that the voice picked up by the microphone, the adaptive filter cannot accurately measure the transfer function. The coefficients should be updated only when there is no voice presented (col. 10, lines 42-57). Thus, it would have been obvious to one of ordinary skill in the art to further modify Kinoshita and Fischer by utilizing the voice discriminating unit as taught in Kanamori in order to control the learning process and avoid divergence of the adaptive filter.

6. Claims 1, 9, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kinoshita et al (US 5,384,853) in view of Tamura et al (US 5,416,846) and Kanamori et al (US 6,639,986).

Regarding claim 1, Kinoshita et al (hereafter Kinoshita) discloses an active noise control system comprising an ANC unit (1 as shown in Fig. 1) for processing signals to actively cancel noise (road noise), sensors for detecting information on the inside (col. 5, line 30) and outside (col. 5, lines 8-11) of the vehicle, and a reproducing transducer (LS0, LS1 as shown in Fig. 1).

Although Kinoshita fails to explicitly show an amplifier, the amplifier is inherently included to provide signal to the speakers.

Kinoshita also fails to show a source unit for generating regenerative signals. Tamura et al (hereafter Tamura) teaches how to incorporate ANC unit with the already installed audio system, including the speakers (on the headrest as shown Fig. 16) and the audio source (Audio input for left and right channels). Thus, it would have been obvious to one of ordinary skill in the art to modify Kinoshita in view of Tamura by utilizing the already installed audio system for generating the anti-noise in order to reduce the cost of implementing the active noise control.

Kinoshita also fails to show a vehicle interior voice discriminating unit. Kinoshita teaches a background level detecting section (42) for detecting the level of the background sound inside the vehicle and determining whether to update the filter coefficients. Kanamori et al (hereafter Kanamori) teaches that the voice picked up by the microphone, the adaptive filter cannot accurately measure the transfer function.

The coefficients should be updated only when there is no voice presented (col. 10, lines 42-57). Thus, it would have been obvious to one of ordinary skill in the art to further modify Kinoshita and Tamura by utilizing the voice discriminating unit as taught in Kanamori in order to control the learning process and avoid divergence of the adaptive filter.

Regarding claim 2, since Kanamori teaches that the processing effect is changed (updating or not updating the coefficients) on noise in a voice band, the system of Kinoshita in view of Tamura and Kanamori would change the processing effect thereof on the noise in a voice band.

Regarding claim 9, Kinoshita teaches that the signals from both sensors are being used for measuring the background level.

7. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kinoshita in view of Tamura and Kanamori as applied to claim 1 above, and further in view of Nakao et al (US 5,651,072).

Regarding claims 6 and 7, Kinoshita shows the type of the sensor for detecting vehicle interior sound (microphone MP1,MP0) and the type for detecting operating conditions of the vehicle (4), but fails to show the type for detecting the information on factors affecting the acoustic space of the vehicle. Nakao teaches ANC using additional sensor for detecting the information on factors affecting the acoustic space of the vehicle (211-213) for adjusting the sensitivity of the microphone. Thus, it would have been obvious to one of ordinary skill in the art to further modify Kinoshita in view of

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Tamura and Kanamori by including additional sensors as taught in Nakao in order to adjust the sensitivity of the microphones.

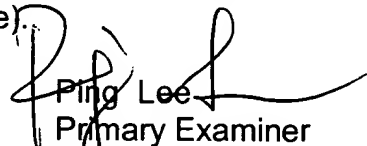
Allowable Subject Matter

8. Claims 3-5, 8, 13 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ping Lee whose telephone number is 703-305-4865. The examiner can normally be reached on Monday and Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester W Isen can be reached on 703-305-4386. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Ping Lee
Primary Examiner
Art Unit 2644

pwl